

In the Abstract

Please amend the abstract now appearing in the currently filed specification as follows:

[0135] The methods, apparatus and compositions disclosed herein concern the detection, identification and/or sequencing of biomolecules, such as nucleic acids or proteins. In certain embodiments of the invention, coded probes comprising a probe molecule attached to one or more nano-barcodes may be allowed to bind to one or more target molecules. After binding and separation from unbound coded probes, the bound coded probes may be aligned on a surface and analyzed by scanning probe microscopy. The nano-barcodes may be any molecule or complex that is distinguishable by scanning probe microscopy (SPM) ~~SPM~~, such as carbon nanotubes, fullerenes, submicrometer metallic barcodes, nanoparticles or quantum dots. Where the probes are oligonucleotides, adjacent coded probes hybridized to a target nucleic acid may be ligated together before alignment and scanning probe microscopy (SPM) ~~SPM~~ analysis. Compositions comprising coded probes are also disclosed herein. Systems for biomolecule analysis may comprise a scanning probe microscopy (SPM) ~~an SPM~~ instrument and at least one coded probe attached to a surface.